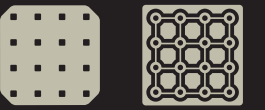
traxon



USER MANUAL

16PXL BOARD RGB
16PXL MODULE RGB

(4PXL ADD-ON STRIP 62.5)
(4PXL ADD-ON BOARD 62.5)

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1/10 V1.2

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FOR YOUR OWN SAFETY AND THAT OF THE PRODUCT, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE BEGINNING SETUP AND INSTALLATION.

CAUTION: DO NOT OPEN OR HANDLE EXCEPT AT A STATIC FREE WORKSTATION OR WEARING ANTISTATIC WRIST STRAP.

1. INTRODUCTION

16PXL BOARD RGB (MB.BO.7110001) 16PXL MODULE RGB (MB.MO.7110001)

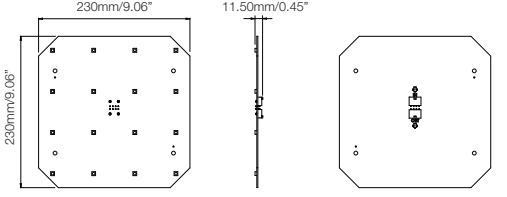
The Traxon™ 16PXL Board/Module RGB features 16 individually controllable ultra bright RGB SMD LEDs on a 4 x 4 matrix with a 62.5mm pitch.

A low-profile and open beam angle ensure optimal integration behind a wide range of diffuser materials, creating low resolution screens for graphic animations and video replay. The product is designed to be the base element for setting up large LED matrix arrays. It can either be mounted as a board or used as a module with plastic housing.

The 16PXL Board/Module RGB is DMX compatible which allows daisy chaining of up to 10 units with the Traxon TX Connect™ system. On-board SMART CHIP™ technology with the powerful feature of auto-addressing enables easy setup and installation.

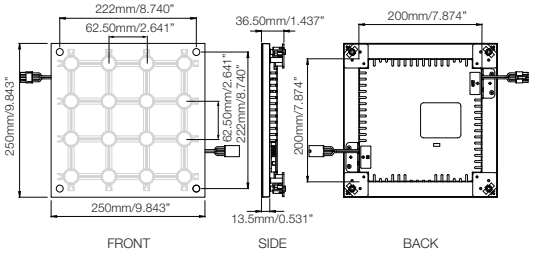
16PXL BOARD RGB

- 16 Ultra Bright RGB SMD LED
- TX Connect™ System
- DMX Control
- Auto-Addressing
- SMART CHIP™ Technology
- Indoor Applications



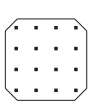
16PXL MODULE RGB

- 16 Ultra Bright RGB SMD LED Board with Housing
- TX Connect™ System
- DMX Control
- Auto-Addressing
- SMART CHIP™ Technology
- Quick Clip Mounting System
- Indoor Applications



2. PACKING CONTENTS

16PXL BOARD RGB

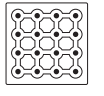

1 x Board

1 x TX Connect Smart Interconnection Cable (30mm/11.82")

4 x Mounting Spacers

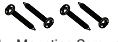
4 x Mounting Screws

16PXL MODULE RGB


1 x Module
(TX Connect Cables Fitted)

2 x Quick Clip
Mounting Kits

4 x Screw Caps


4 x Mounting Screws

1 x Removal Key

3. SAFETY AND OPERATION

CAUTION – UNPLUG THE POWER SUPPLY FROM THE MAINS POWER BEFORE CONNECTING ANY CABLES AS THIS CAN DAMAGE THE PRODUCTS.

CAUTION – AVOID LOOKING DIRECTLY INTO THE LED LIGHT SOURCE AT CLOSE RANGE FOR YOUR OWN SAFETY.

ANY PERSONS INSTALLING THIS PRODUCT SHOULD COMPLY WITH LOCAL STANDARDS AND REGULATIONS AND MUST BE QUALIFIED FOR THE HANDLING OF ELECTRICAL EQUIPMENT.

This product is designed for indoor use only.

Ensure product operate within the ambient temperature range of 0°C to 40°C (32°F to 104°F).

If the fixture has been subjected to drastic temperature variances, for example, following transportation, do not connect the fixture until it has reached room temperature, as moisture condensation may cause electric shock and product damages.

When installing the fixtures and system power supplies, please ensure they will not be exposed to moisture and extreme heat (and direct sunlight for outdoor products). Besides, keep a clean operating environment for the fixtures and system power supplies.

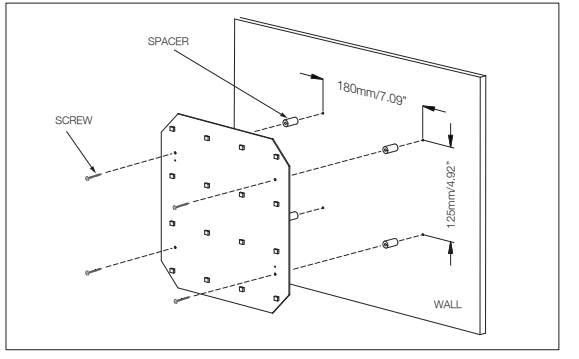
Please study this User Manual thoroughly and check the latest Technical Specification Sheets available from our website [www.traxontechnologies.com] before setup.

4. MOUNTING

4.1 BOARD

To mount the Board, first fit the nylon spacers into the mounting holes from the rear of the board. Then use the screws to firmly fasten the board to a flat surface. Careful not to over-tighten the screws (see FIG 1).

FIG 1: Board Mounting



4.2 MODULE

The Module can be mounted by directly screwing it to the wall or using the Quick Clip mounting clips.

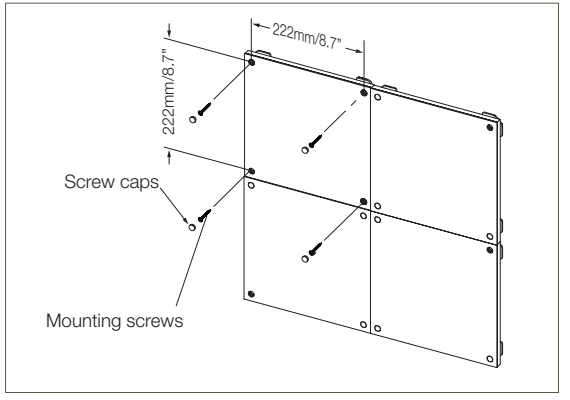
• DIRECT SCREW MOUNTING

For front mounting with screws, position the Module in the desired location and fasten the mounting screws from the front, taking care not to over tighten as this may damage the housing. Once all screws have been fixed in place, use the screw caps provided to cover the screw holes (see FIG 2).

For multi module installation, the provided Quick Clip mounting kit can be used as mounting aid. Affix the mounting brackets to the rear side of the Module fixtures before mounting. For the outer most Modules, snap the mounting clips into two (corner Modules do not require any Quick Clip mounting bracket). Once all Modules have been hooked together, align them on the desired surface and fasten the mounting screws from the front (see FIG 2).

For installations exceeding 1m^2 area, it is recommended to mount the Module in segments of 4 x 4 modules

FIG 2: Direct Mounting the Module



• QUICK CLIP MOUNTING

The Module can be mounted by using the Quick Clip mounting clips without screwing on the module. This allows easy mounting and removal of the module with the aid of the Removal Key (see FIG 4). First, select the Quick Clip mounting brackets for Center- and Edge-Modules and fix them to any flat surface by the center holes using the provided screws. Please refer to the measurements specified for Center-to-Center Module and Center-to-Edge Modules in FIG 3. With the clips screwed in place, position the module on to the clips and press the four corners firmly to clip the module into place.

FIG 3: Quick Clip Mounting the Module

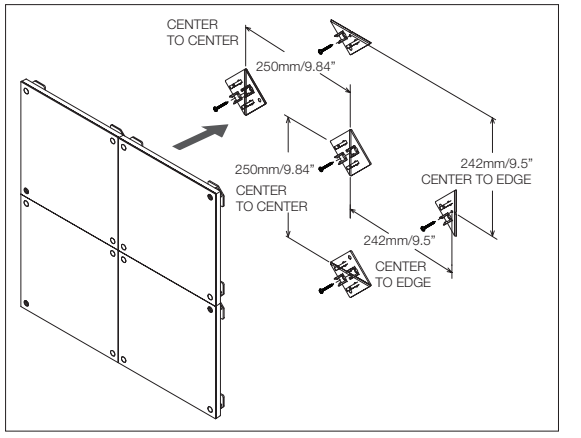
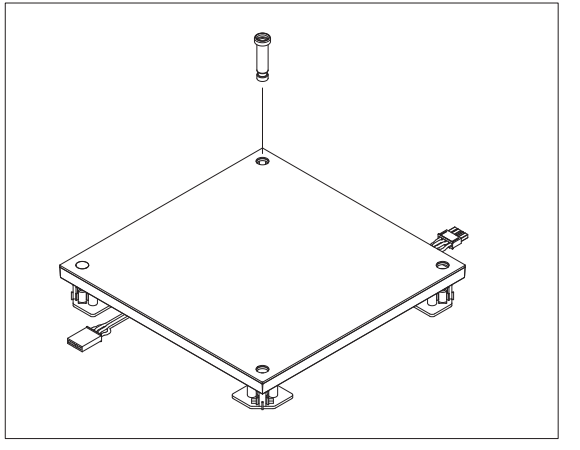


FIG 4: Using the Removal Key



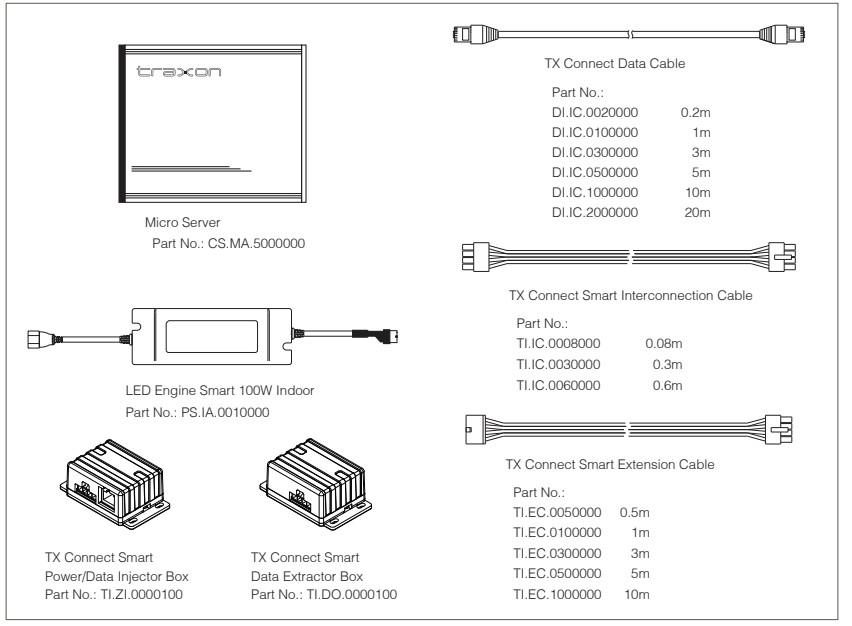
To unmount the module, first remove the screw caps by carefully easing it out from the side. Then using the Removal Key, insert it into the screw hole and push to release the corner of the module from the clip. Repeat this for the other three corners of the module and then carefully ease the module out (see FIG 4).

5. SYSTEM CONFIGURATION

5.1 TX CONNECT SYSTEM

The Traxon TX Connect System is a interconnection system that combines power and DMX data on a single connector cable so that only one connection is required between light fixtures. The Board/Module uses TX Connect System for all interconnections. FIG 5 shows some components for the TX Connect System:

FIG 5: TX Connect System Components



5.2 SYSTEM CONNECTION

The fixtures are wired together in a daisy chain using the TX Connect Smart system (see FIG 6 and FIG 7).

FIG 6: 16PXL Board RGB System Connection Example

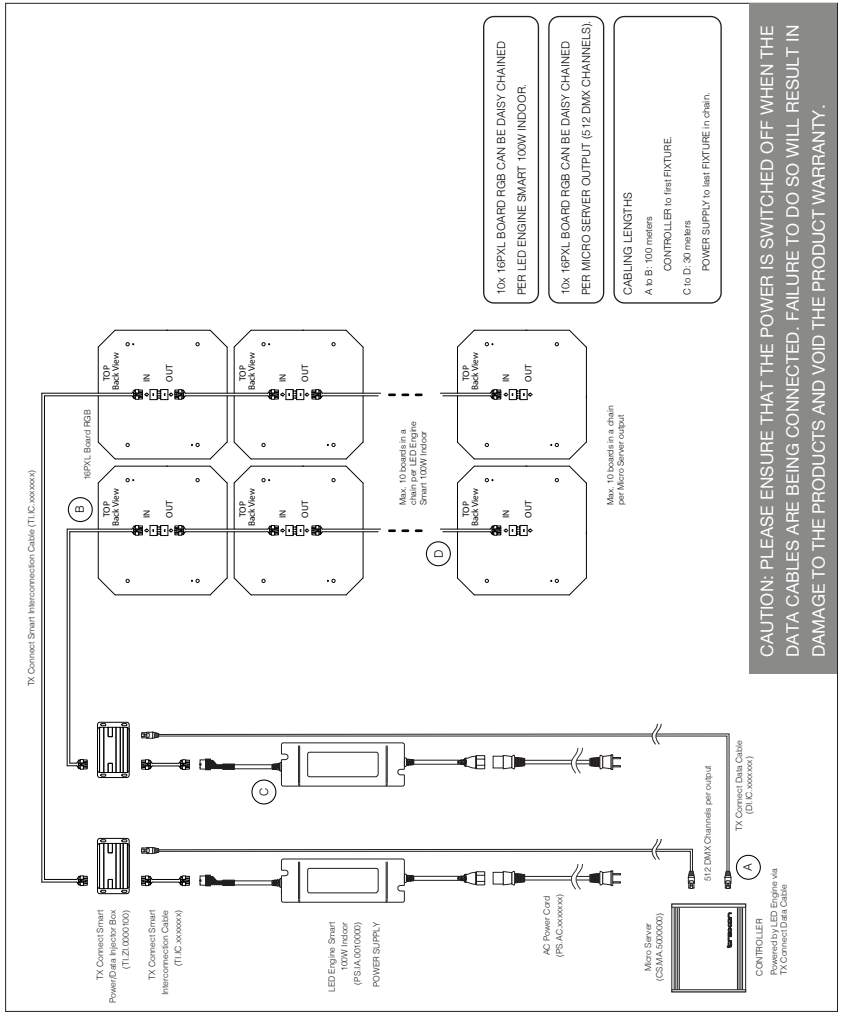
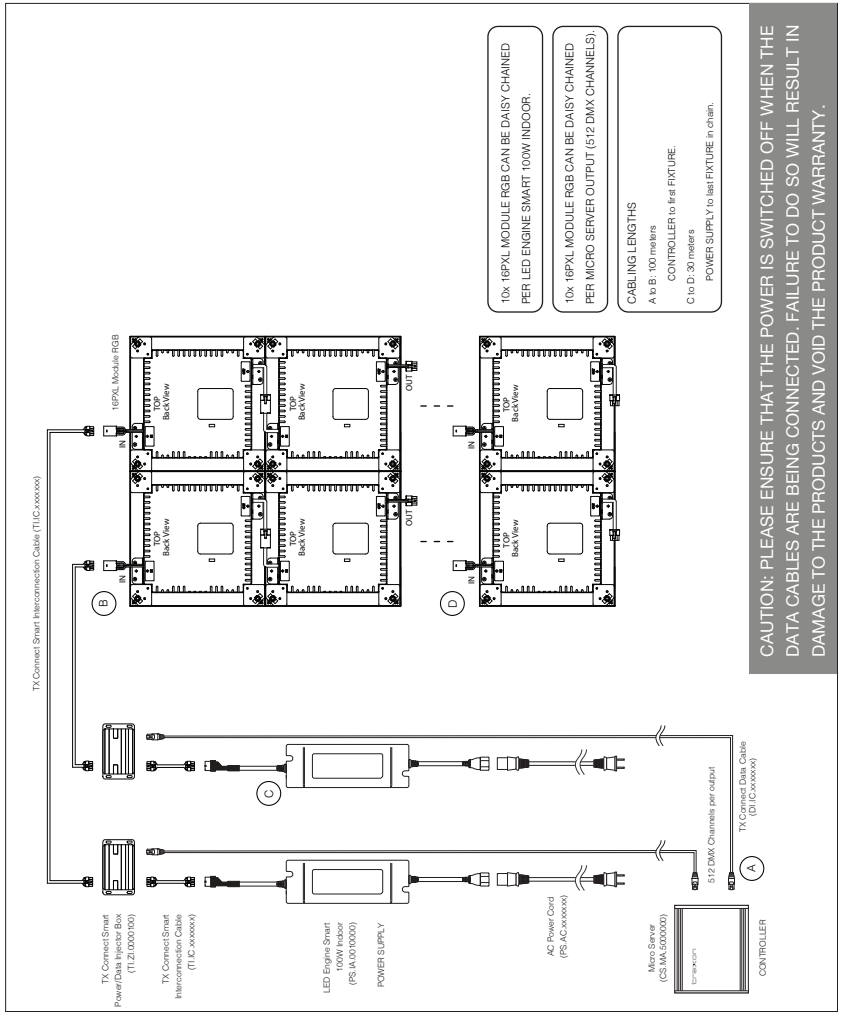

10x 16PXL BOARD RGB CAN BE DAISY CHAINED PER LED ENGINE SMART 100W INDOOR.
10x 16PXL BOARD RGB CAN BE DAISY CHAINED PER MICRO SERVER OUTPUT (512 DMX CHANNELS).
CABLING LENGTHS
A to B: 100 meters
CONTROLLER to first FIXTURE.
C to D: 30 meters
POWER SUPPLY to last FIXTURE in chain.
CAUTION: PLEASE ENSURE THAT THE POWER IS SWITCHED OFF WHEN THE DATA CABLES ARE BEING CONNECTED. FAILURE TO DO SO WILL RESULT IN DAMAGE TO THE PRODUCTS AND VOID THE PRODUCT WARRANTY.
TX Connect Smart Interconnection Cable (TI.IC.xxxxxxx)
16PXL Board RGB
TOP
Back View
IN
OUT
Max. 10 boards in a chain per LED Engine Smart 100W Indoor
Max. 10 boards in a chain per Micro Server output
TX Connect Smart Power/Data Injector Box (TI.ZI.0000100)
TX Connect Smart Interconnection Cable (TI.IC.xxxxxxx)
LED Engine Smart 100W Indoor (PS.IA.0010000)
POWER SUPPLY
AC Power Cord (PS.AC.xxxxxxx)
512 DMX Channels per output
TX Connect Data Cable (DI.IC.xxxxxxx)
Micro Server (CS.MA.5000000)
CONTROLLER
Powered by LED Engine via TX Connect Data Cable

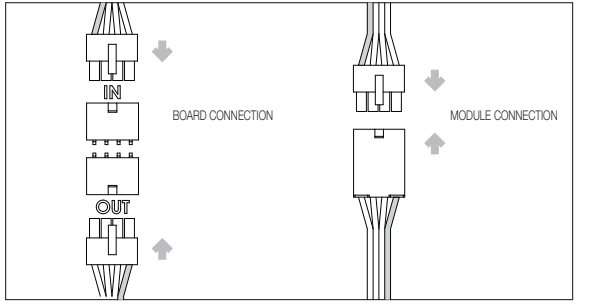
FIG 7: 16PXL Module RGB System Connection Example


10x 16PXL MODULE RGB CAN BE DAISY CHAINED PER LED ENGINE SMART 100W INDOOR.
10x 16PXL MODULE RGB CAN BE DAISY CHAINED PER MICRO SERVER OUTPUT (512 DMX CHANNELS).
CABLING LENGTHS
A to B: 100 meters
CONTROLLER to first FIXTURE.
C to D: 30 meters
POWER SUPPLY to last FIXTURE in chain.
CAUTION: PLEASE ENSURE THAT THE POWER IS SWITCHED OFF WHEN THE DATA CABLES ARE BEING CONNECTED. FAILURE TO DO SO WILL RESULT IN DAMAGE TO THE PRODUCTS AND VOID THE PRODUCT WARRANTY.
16PXL Module RGB
TOP
Back View
IN
OUT
B
D
C
A
TX Connect Smart Interconnection Cable (TI.IC.xxxxxx)
TX Connect Smart Power/Data Injector Box (TI.ZI.0000100)
TX Connect Smart Interconnection Cable (TI.IC.xxxxxx)
LED Engine Smart 100W Indoor (PS.IA.0010000)
POWER SUPPLY
AC Power Cord (PS.AC.xxxxxx)
512 DMX Channels per output
TX Connect Data Cable (DI.IC.xxxxxx)
Micro Server (CS.MA.5000000)
CONTROLLER

5.3 CONNECTING BETWEEN FIXTURES

Use the TX Connect Smart Interconnection Cable to connect between boards. Use the pre-installed cables to connect between Modules. For longer distances, use existing cable together with a TX Connect Smart Extension Cable.

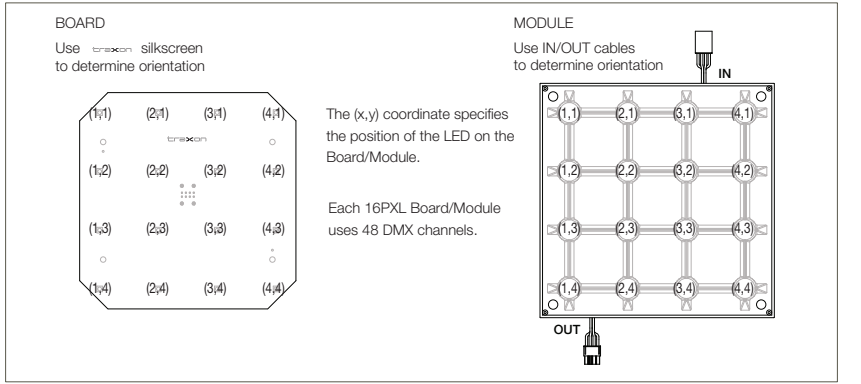
FIG 8: Connecting Fixtures



5.4 LED CONTROL

The LEDs on the 16PXL Board/Module RGB are controlled by DMX. The LED location on the Board/Module and its DMX channel is shown in FIG 9 and the following table.

FIG 9: LED Positions on the Board/Module


BOARD
Use trexon silkscreen to determine orientation
(1,1) (2,1) (3,1) (4,1)
(1,2) (2,2) (3,2) (4,2)
(1,3) (2,3) (3,3) (4,3)
(1,4) (2,4) (3,4) (4,4)
The (x,y) coordinate specifies the position of the LED on the Board/Module.
Each 16PXL Board/Module uses 48 DMX channels.
MODULE
Use IN/OUT cables to determine orientation
IN
OUT

LED Dice	DMX Channel Number
RED	48(n-1) + 12(x-1) + 3(y-1) + 1
GREEN	48(n-1) + 12(x-1) + 3(y-1) + 2
BLUE	48(n-1) + 12(x-1) + 3(y-1) + 3
Where: n is the board/module position in the chain. x is the LED horizontal position on the Board/Module. y is the LED vertical position on the Board/Module.	

6. CARE AND MAINTENANCE

Traxon™ products are of superior design and quality and should be treated with care. The recommendations below will help fulfill and warranty obligations and gain good use and longevity from the products.

- Do not attempt or use the product(s) until you read and understand the installation instructions. Failure to adhere to these instructions could result in serious injury or property damage.
- Do not use product(s) if cables are damaged.
- Do not use product(s) when wet or in wet area. Moisture can cause electric shock and damage to product(s).
- Do not use product(s) in dirty and dusty environment.
- Do not use product(s) in extreme heat environment. Ensure there is sufficient airflow and use cool air circulation if required.
- Do not drop, knock, or shake product(s). Rough handling can damage the electronics and void the warranty.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean products. Wipe with a damp cloth on housings and a dry cloth on electronics to remove dirt or dust.
- Do not use product(s) outdoors.
- Do not attempt to service or repair the product(s) unless done by an authorized service personnel. Contact your the local Traxon™ office or distributor for details.

If the product is not working correctly, please contact your nearest authorized service centre or Traxon Technologies office for assistance.

7. TECHNICAL SPECIFICATION

Color Range:	16.7 million additive RGB colors with variable intensity
Light Source:	16 Ultra Bright SMD LED
Beam Angle:	120°
Power Input:	24V DC
Power Consumption:	9W max.
Operating Temperature:	0°C to 40°C (32°F to 104°F)

For use with TRAXON LED Engine Smart 100W Indoor (PS.IA.0010000) power unit.

As with all electronic devices, LED output degrades over time - a term called lumen depreciation. This also explains why it is nearly impossible to expect photometric performances of two LED products with different service life spans to be the same. The rate of LED degradation is a complex function of many factors such as operating efficiency, duration of continuous operation, and operating conditions (e.g. ambient temperature).

Because LEDs are semiconductor devices, their performances are subject to inherent variability commonly found in semiconductor industry. To improve consistency in performance across the same product. LED manufacturers “sort” LEDs into bins according to different preset parameters, such as forward driving voltage, illumination, etc. Whereas binning is a sorting function, it is not a correction process. Inherent variability in the manufacturing process results always in different binning distributions according to different production lots. Traxon uses automatically binned LEDs on its products, thereby minimizing output variations within the model range.

8. WARRANTY STATEMENT

Traxon warrants its Products against material or workmanship defects for a period of two (2) years from date of purchase, provided that the purchased items are used under the conditions stated in this user manual.

Please refer to the Product Warranty section under www.traxontechnologies.com/terms for warranty terms and conditions.

9. ADD-ON FIXTURES

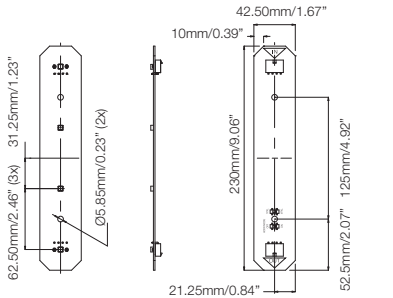
4PXL ADD-ON STRIP RGB 62.5 (MB.ST.5311000)

4PXL ADD-ON BOARD RGB 62.5 (MB.BO.5315000)

The 4PXL Add-on Strip and 4PXL Add-on Board are add-on extensions for the 16PXL Board RGB. The Add-on Strip and Board use TX Connect for all interconnections.

9.1 DIMENSIONS

ADD-ON STRIP (62.5)



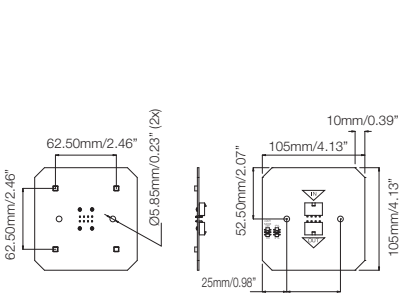
1 x TX Connect Smart Interconnection Cable (300mm/11.81")

1 x TX Connect Smart Interconnection Cable (40mm/1.57")

2 x Mounting Spacers

2 x Mounting Screws

ADD-ON BOARD (62.5)



1 x TX Connect Smart Interconnection Cable (300mm/11.81")

1 x TX Connect Smart Interconnection Cable (80mm/3.15")

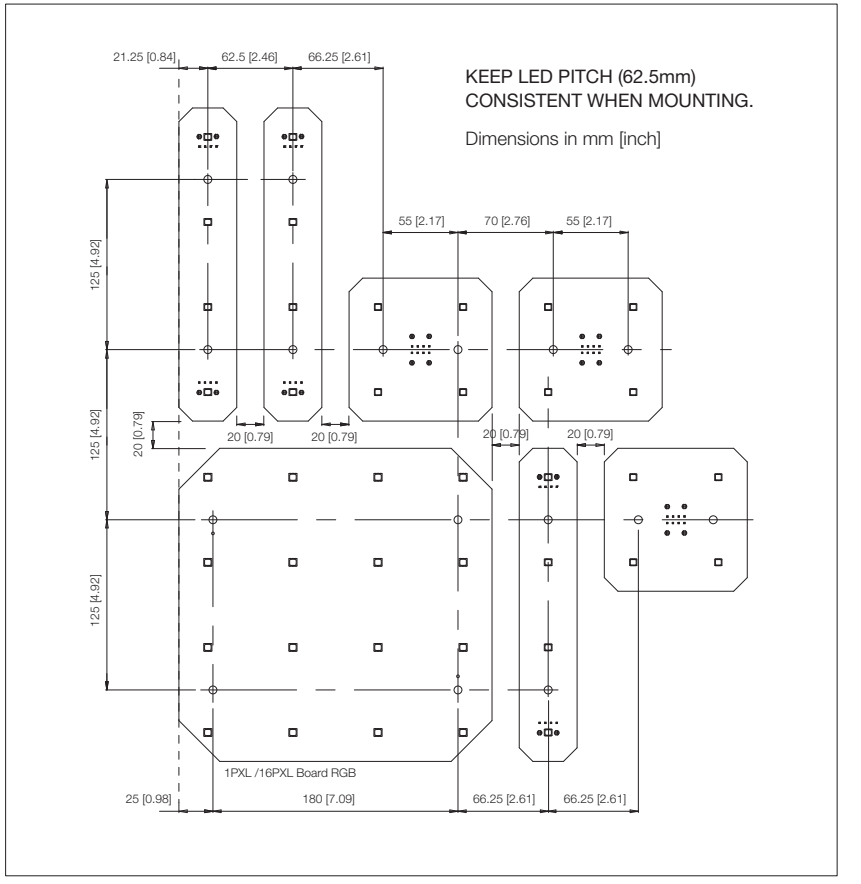
2 x Mounting Spacers

2 x Mounting Screws

9.2 TECHNICAL SPECIFICATION

Color Range:	16.7 million additive RGB colors with variable intensity
Light Source:	4 Ultra Bright SMD LED
Beam Angle:	120°
Power Input:	24V DC
Power Consumption:	2.5W max. (MB.ST.5311000 / MB.BO.5315000)
Operating Temperature:	0°C to 50°C (32°F to 122°F)

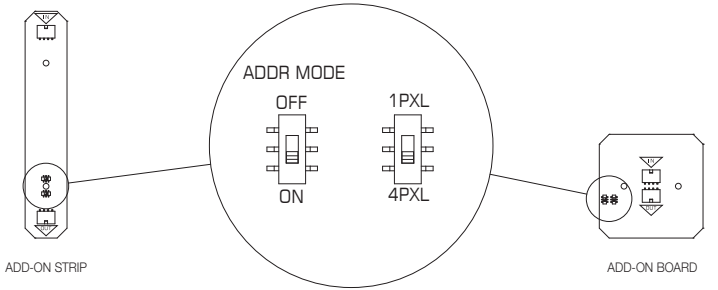
FIG 10: Mounting 16PXL Board RGB with Add-on Strips and Add-on Boards



9.3 SETTING AUTO-ADDRESSING AND BOARD MODE

The two DIP switches on the back of the 4PXL add-on strip/board set the auto-addressing and board mode (see FIG 11). Auto-addressing sets the DMX channel for the next fixture in the chain. Board mode sets the add-on strip/board to be used with 1PXL Boards or 16PXL Boards.

FIG 11: Auto-Addressing and Board Mode Switches



ADDR MODE OFF: Next fixture starts with same DMX start addess as current.
ADDR MODE ON: Next fixture starts with new DMX address.

1PXL: Select for use with 1PXL Board RGB.
4PXL: Select for use with 16PXL Board RGB.

9.4 LED POSITION AND CHANNEL ALLOCATION

The LEDs on the 4PXL Add-on Strip and 4PXL Add-on Board are controlled by DMX. The LED position on the Strip/Board and its DMX channel is as follows:

LED Dice	DMX Channel Number
RED	Start Address + 3L - 3
GREEN	Start Address + 3L - 2
BLUE	Start Address + 3L - 1
Where: L is the LED position on the board.	

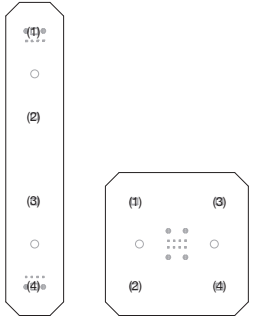
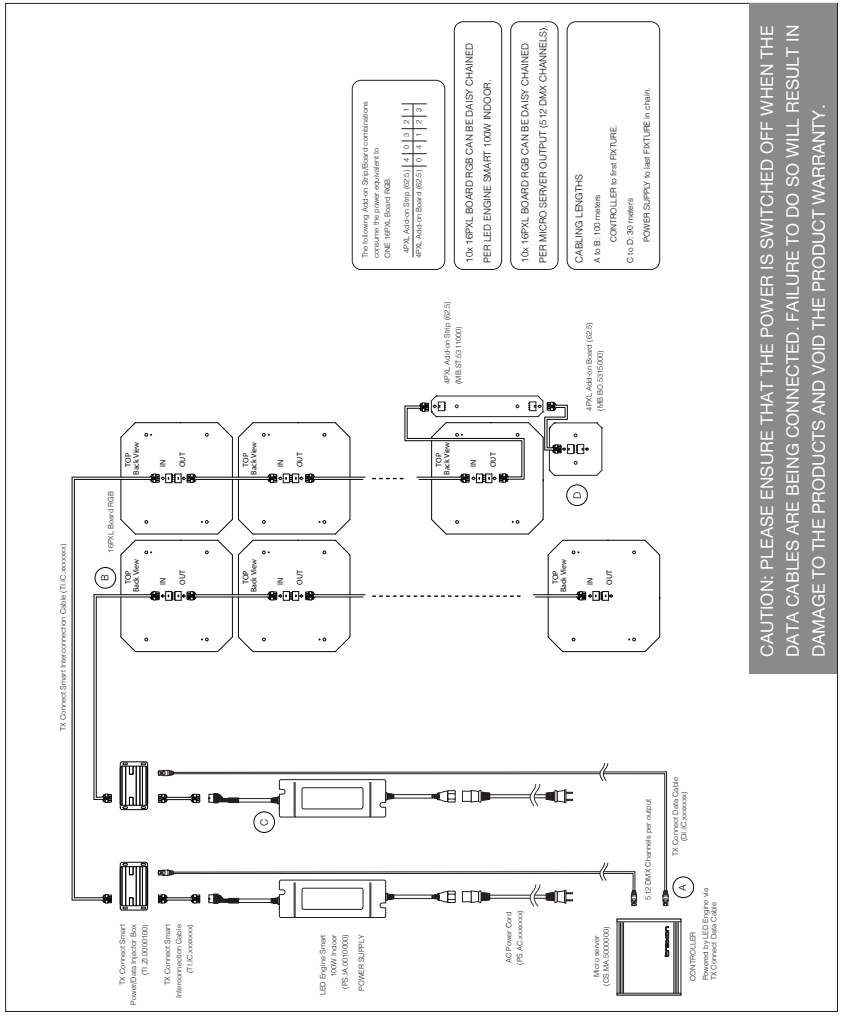


FIG 12: 16PXL Board RGB with Add-on Strip and Add-on Board Connection Example


The following Add-on Strip/Board combinations consume the power equivalent to ONE 16PXL Board RGB.
4PXL Add-on Strip (62.5) | 4 | 0 | 3 | 2 | 1 |
4PXL Add-on Board (62.5) | 0 | 4 | 1 | 3 | 3 |
10x 16PXL BOARD RGB CAN BE DAISY CHAINED PER LED ENGINE SMART 100W INDOOR.
10x 16PXL BOARD RGB CAN BE DAISY CHAINED PER MICRO SERVER OUTPUT (5/12 DMX CHANNELS).
CABLING LENGTHS
A to B: 100 meters
CONTROLLER to first FIXTURE:
C to D: 30 meters
POWER SUPPLY to last FIXTURE in chain.
CAUTION: PLEASE ENSURE THAT THE POWER IS SWITCHED OFF WHEN THE DATA CABLES ARE BEING CONNECTED. FAILURE TO DO SO WILL RESULT IN DAMAGE TO THE PRODUCTS AND VOID THE PRODUCT WARRANTY.
4PXL Add-on Strip (62.5) (MB.S7.53.11000)
4PXL Add-on Board (62.5) (MB.B0.53150000)
16PXL Board RGB
TX Connect Smart Interconnection Cable (TI.IC.xxxxxx)
TOP
Back View
IN
OUT
A
B
C
D
TX Connect Smart Power/Data Indoor Box (TI.ZI.00100100)
TX Connect Smart Interconnection Cable (TI.IC.xxxxxx)
LED Engine Smart 100W Indoor (PR.MA.00100100)
POWER SUPPLY
AC Power Cord (PR.AC.xxxxxxx)
5/12 DMX Channels per output
TX Connect Data Cable (DI.IC.xxxxxxx)
Micro server (CS.MA.50000100)
CONTROLLER
Powered by LED Engine via TX Connect Data Cable